



Colorado



REGION 12
Colorado
Kansas
Missouri

Addressing Educator Workforce Shortages

A State Comparison Brief

Andrea Guiden, PhD and Visha Patel

April 2021





REGION 12
Colorado
Kansas
Missouri

The contents of this document were developed by the Region 12 Comprehensive Center under a grant from the U.S. Department of Education. However, the contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal government.

Table of Contents

Introduction.....	1
Common Strategies for Mitigating Educator Shortages	2
Grow Your Own.....	3
Alternative Routes and Pathways to Teacher Certification.....	5
Reciprocity	7
Financial Incentives.....	7
Educator Preparation Partnerships	8
Certification Modifications.....	9
Teacher Career Development	10
Key States.....	11
Arizona	11
Missouri.....	11
Nebraska	12
New Mexico.....	13
Oklahoma.....	13
Oregon	14
Washington.....	14
State Crosswalk.....	15
COVID-19 and Educator Shortages	18
Conclusion	19
Resources.....	20
Attract	20
Prepare	21
Retain	22
Selection Tools	24
References	26

List of Tables

Table 1. Seven Common Strategies to Mitigate Educator Shortages.....	3
Table 2. Western Region Educator Shortage Strategies.....	16
Table 3. Midwest Region Educator Shortage Strategies.....	16
Table 4. Southern Region Educator Shortage Strategies	17
Table 5. Northern Region Educator Shortage Strategies	17

Introduction

States and local education systems hold the primary responsibility for delivering public education in the United States. During the past several years, the quality of the American education system has become national policy priority, replete with school reform efforts designed to hold all students to high standards, increase student achievement, and staff schools with highly qualified and talented education professionals (FutureEd, 2020). A talented educator workforce is an essential foundation for improving educational outcomes for students. As such, securing teachers at all levels of the educator pipeline (recruitment, preparation, and retention) is necessary for student success.

Unfortunately, the United States educator workforce is experiencing shortages of crisis-level proportions, especially in specific teaching fields such as mathematics, science, and special education. Research suggests that teacher shortages are not across the board, but are rather most acute among certain geographies, schools, and particular subject areas. Rural, high-poverty, and high-minority schools face the greatest difficulties (Lachlan et al., 2020). In geographic locations where wages, the cost of living, and working conditions may be less attractive to potential teachers and teacher candidates (Sutcher et al., 2016), attracting potential teacher candidates can be challenging. Furthermore, education scholars point to discouraging trends in teacher workforce data: dwindling enrollment in educator preparation programs, diminished interest in remaining in the teaching profession, and growing considerations for early retirement (Kurtz & Bushweller, 2020; Lardieri, 2020; Perry, 2020).

These trends extend to shortages in educator positions, such as school administrators, school counselors, and superintendents. A national survey of school principals found that approximately 18% of principals had left their position since the year before, and the rate was higher (21%) for principals working in high-poverty schools (Levin et al., 2021). Additional studies reveal that 50% of principals leave their school by the third year of leading a school. The reasons are varied—school leaders retire, change schools, and pursue other professional opportunities—and replacing them with qualified candidates can be hard (Levin et al., 2021). The demand for greater numbers of school leaders continues to grow as the U.S. population increases. According to the National Association of Secondary School Principals (2017), increased responsibilities have impaired districts' abilities to attract and retain desirable candidates.

Many states are facing an educator shortage crisis. For example, prior to the COVID-19 pandemic, enrollment in teacher preparation programs had dropped 35% nationwide (Sutcher et al., 2016). Some states, such as California, were grappling with even steeper declines; enrollment in the state's credentialing programs had decreased by 40% (California Commission on Teacher Credentialing, 2016).

The COVID-19 pandemic has exacerbated the teacher shortage, prompting state and local policy changes to educator licensure, certification, and candidacy guidelines (American Association of Colleges for Teacher Education, 2020). Furthermore, the challenges associated with the nationwide

shift to virtual and hybrid learning has potentially discouraged and demotivated many teachers, prompting earlier-than-expected departures from the profession (Lachlan et al., 2020).

This exploratory scan of efforts by state education agencies and other education entities to address educator workforce staffing challenges was written as part of a Region 12 Comprehensive Center project with the Colorado Department of Education (CDE) to help inform Colorado education stakeholder efforts to strengthen the educator pipeline. The primary purpose of the scan was to explore the innovative programs, policies, and practices that states are using to mitigate educator staffing challenges. The information contained in this scan and comparison paper was collected through a search of state and local education agency websites, as well as the sites of national organizations that are leading the charge in addressing educator talent issues. As such, the content contained in this brief does not necessarily reflect the composite breadth of work that all states or organizations are doing to mitigate shortages in its workforce. Rather, it represents a compilation of publicly available content that can guide Colorado and other state education stakeholders working to address educator shortages.

This brief begins with an explanation of seven common practices used to address educator shortages, followed by state examples of these practices. Then, practices of select “key” states are highlighted. Key states are locales with demographics similar in many ways to areas in Colorado that are experiencing the most critical educator workforce shortages. This section provides a general context for the educator workforce shortage issue in the state and features a promising practice being implemented by the state or one of its local districts. Then, examples of how key states are tackling educator shortages specifically in the context of COVID-19 are provided, followed by a state-by-state crosswalk of efforts to recognize, address, and mitigate educator shortages that highlights overall themes and state strategies, organized by region. A conclusion section, resources section featuring strategies states and school districts might employ to address educator shortages, and reference list close out the brief.

Common Strategies for Mitigating Educator Shortages

The state-by-state comparison revealed seven common strategies for attracting, preparing, and retaining educators that comprise practices and policies enacted at state and local levels to generate greater numbers of educators entering and staying in the workforce. The strategies include developing Grow Your Own programs, providing alternative routes to teacher preparation and certification, shifting reciprocity policies, offering financial incentives to attract and/or retain teachers, developing strategic partnerships with local schools and agencies, offering myriad pathways for earning teaching credentials, and providing opportunities for teacher career development outside of the classroom. Table 1 outlines an explanation of each strategy.

Table 1. Seven Common Strategies to Mitigate Educator Shortages

Common Strategy	Explanation of Strategy
Grow Your Own	Grow Your Own initiatives are community-rooted programs designed to provide innovative and intensive supports for recruiting, training, and retaining educators by building pipelines for local populations to meet regional needs.
Alternative Routes and Pathways to Teacher Certification	Alternative routes and pathways to teacher certification may include offering ways that educators can obtain teacher certification beyond the traditional, 4-year degree from an undergraduate institution of higher education. Such routes may be comparatively shorter in length than traditional programs and perceived as more convenient, affordable, and practically oriented. It should be noted that Colorado categorizes post-baccalaureate licensure as traditional preparation, and not an alternative route and pathway.
Reciprocity	Teacher license reciprocity allows educators who hold a teaching license in one state to earn a license in another state with little or no additional coursework, subject to meeting state-specific requirements.
Financial Incentives	Financial incentives include programs to improve teacher compensation. Some examples include differentiated pay scales, scholarships and loan forgiveness programs, and salary increases. Financial incentives are a common practice to build the pipeline of teachers, attract teachers to shortage areas and locations, and increase teacher retention.
Educator Preparation Partnerships	Educator preparation partnerships are collaborative efforts among diverse stakeholder groups potentially representing educators, school principals, higher education institutions, and other experts who provide input, guidance, and support for training teacher candidates.
Certification Modifications	Certification modifications are provisional changes or deviations in the traditional guidelines that allow an individual to receive a teaching certificate.
Teacher Career Development	Teacher career development refers to opportunities for teachers to serve schools, students, and the educational community beyond the classroom setting.

Grow Your Own

Grow Your Own (GYO) programs (College and Career Readiness and Success Center, n.d.) help increase the number of educator candidates in the pipeline. States vary in their level of engagement with GYO; some states fund grants for districts, solely issue guidance, or develop their own state-level programs. States and districts often use funds from Perkins V to fund career and technical education pathways in education as a vehicle to create their GYO initiatives.

Louisiana developed a Pre-Educator Pathway program that guides and cultivates local high school students on their path to becoming accomplished educators. With an offering of courses on antibias instruction, professional collaboration, and understanding assessments, the program addresses workforce needs related to teacher recruitment and retention (Louisiana Department of Education, n.d.-c).

Another program, Believe and Prepare, funds full-year residencies for aspiring teachers, with an emphasis on teacher candidates from Louisiana. After conducting a statewide teacher survey, the state uncovered challenges facing preparation programs, principals, and administrators to support first-year students. Believe and Prepare was created to mitigate the issues by using local partnerships to train aspiring teachers in regional areas. The program helps to strengthen partnerships between educator preparation providers and school systems that design the residency and curriculum experience. The program includes working with an expert teacher mentor and learning from a competency-based curriculum. Funding entails a \$2,000 stipend for students and a \$1,000 stipend for mentors. Within the initial 3-year cohort, 850 undergraduate teacher candidates had full-year residencies (Louisiana Department of Education, n.d.-a). To expand the number of teachers receiving full-year teacher residencies, the Louisiana Department of Education awarded an additional \$7.3 million in funds to cover stipends and administrative costs (Louisiana Department of Education, 2016).

As an offshoot of Believe and Prepare, Louisiana also designed a program to focus on better connecting aspiring teachers to rural districts. Aspiring teachers who enter the pipeline through an alternative route and then go to work in Louisiana's rural communities, enter the field with less practicum experience, which can result in a challenging transition into teaching and lead to lower retention rates. To address this issue, the state department of education encouraged local districts to develop innovative ways to break the cycle. In collaboration with multiple Louisiana school districts, the state department of education decided to provide at least 5 hours of mentoring per week, as well as professional development and co-teaching opportunities, for alternative certification candidates across 16 schools in rural districts (Louisiana Department of Education, n.d.-a). Pilots accounted for a 350% increase in the amount of time candidates spent in the practicum experience (Louisiana Department of Education, 2018). Louisiana funded the rural district program with a \$66.8 million federal Teacher Incentive Fund grant (Louisiana Department of Education, 2016).

Understanding the need to increase innovative recruitment efforts because of the high cost of higher education, in 2020, the **Indiana Department of Education** (IDOE) developed a \$50,000 grant opportunity for local education agencies to work alongside the Region 8 Comprehensive Center (R8CC), an educator preparation program, and IDOE in a planning and implementation process to develop an Grow Your Own program called the Teacher Residency Pilot. Focusing on building a pipeline of educators within local Indiana communities, the grant covers stipends for mentors, student fees, and other related implementation costs. IDOE selected two of nine district applicants to pilot the program during the 2021–22 academic year. The program will be funded through a federal Title II, Part A Supporting Effective Instruction grant (Indiana Department of Education, 2020).

To combat the shortage issue of highly qualified, credentialed teachers serving students with disabilities, the **South Carolina Department of Education, Office of Special Education Services** sponsors the SC-CREATE scholarship program to fill positions in focus areas, including initial, alternative, and add-on licensure in the following areas: behavior interventionist (add-on), orientation and mobility (O&M) specialist (add-on), school psychologist (degree), secondary transition specialist (add-on), special education teacher (add-on, alternative, and degree options), and speech-language pathologist (degree). Specific colleges offer these programs and often provide distance/online learning options. Individuals take between six and eight credits per semester. The scholarship is only available to employees of a public or charter school, including teachers, teacher assistants, noninstructional staff, and central office staff. The former four programs (i.e., behavior interventionist, O&M specialist, school psychologist, and secondary transition specialist) require nominations or referral from the district. In partnership with colleges, individuals in the program receive funds for tuition and textbooks, and an employee agreement between each participant and district ensures a position for at least the year following program completion. This program has evolved in recent years, including the Office of Special Education Services working with colleges to provide distance programs for regions where there is no college access. Since its inception in 2003, the program has resulted in 1,172 completers in 83 districts (South Carolina Department of Education, n.d.). In the 2019–20 academic year, two years following program completion, approximately 82% of the completers remained employees at their original district, and approximately 17% of the completers still were employed in a district within South Carolina (South Carolina Department of Education, 2020).

The **Minnesota Department of Education** provides districts, public schools, charter schools, and postsecondary institutions the opportunity to apply for the Introduction to Teaching Concurrent Enrollment Grant to build awareness and interest in teaching for current high school students and increase the diversity of its teacher workforce. The grant provides funds to develop an introduction to teaching dual-credit postsecondary course. Schools can use the funds for costs in providing this course at high schools; however, districts must be accredited through the National Alliance of Concurrent Enrollment Partnership to receive the aid and must partner with a postsecondary institution in its development. Minnesota has approximately \$350,000 to serve four or five applicants. Funded through June 2021, awards range from \$21,000 to \$89,000 each year (Minnesota Department of Education, n.d.).

Alternative Routes and Pathways to Teacher Certification

Alternative route preparation programs now offer real promise as a means to address teacher workforce shifts and, due to unemployment in other sectors that may increase the supply of applicants, programs may be more selective than ever before (Lachlan et al., 2020). Careful candidate selection and program design are paramount to realizing the potential of this increased supply (Dai et al., 2007; Wasburn-Moses & Rosenberg, 2008).

Kentucky passed KRS 161.048, which provides eight different alternative routes to teacher certification that cover a wide spectrum of individuals to build the teacher pipeline. This act allows the Education Professional Standards Board and Kentucky Department of Education to expand its recruitment scale. The eight options include individuals who (a) have exceptional, nonteaching work experience in a specific content area; (b) complete an approved local district training program; (c) are full-time college faculty; (d) are adjunct instructors (P-12); (e) are armed forces veterans; (f) complete an approved university-based alternative route; (g) complete training in an approved institute alternative route program; or (h) participate in Teach For America. The Education Professional Standards Board approves required programs, such as local district training. Most requirements include a bachelor's degree with at least a 2.75 grade point average (GPA; Kentucky Department of Education, 2020). Applicants under the first option must have a major in the content area or pass an academic content assessment. The Education Professional Standards Board approves a 1-year provisional certificate for the individual if the application documents exceptional work in the content area. Similar to the first option, the third option, for full-time college faculty, provides a provisional certificate for individuals who have a postbaccalaureate degree in the content area and 5 years of teaching experience. For the fifth option, a veteran also must have a major in the content area or pass an academic content assessment before approval of a provisional certificate from the Education Professional Standards Board. Individuals issued a provisional certificate undergo a teacher internship program during their first year as a teacher. Afterward, they are issued a professional certificate subject to the same renewal process as other professional certificates (Public Act 161.048, 2017).

In 2017, the **General Assembly in South Carolina** authorized the Teachers of Tomorrow program to help individuals gain an alternative certification in direct response to the critical teacher shortage. Teachers of Tomorrow is a national organization that provides a certification process through coursework, preparation, matching, and certification support. Nine states use this program as an alternative route to certification. Individuals applying to the program must have a bachelor's degree, a 2.5 GPA, 21 credit hours in the certification area, conduct a telephone interview, and pass the South Carolina Teachers Screening Instrument. The program costs \$4,395, but can be paid in installments once an individual starts teaching. The online component of the program is self-paced so that individuals can complete it while continuing to work in their current jobs and preparing for state examinations and subject assessments. Once students pass the examinations and complete the initial coursework, they teach for two academic semesters as their internship year, with full pay and benefits under an alternative route certificate and with the guidance of program mentors. In addition, students complete supplemental coursework and must pass the Principles of Learning and Teaching examination during their internship year. Once participants complete the program and an additional 2 full years of teaching, they are eligible to receive a professional certificate. In 2019, 1,104 individuals applied to the program, 300 potential teachers enrolled in the program, and 57 teachers were hired to work for South Carolina districts (South Carolina Teachers of Tomorrow, n.d.-a; n.d.-b; 2020).

Reciprocity

Reciprocity policies can help a state's ability to attract newly graduated students from other states and incoming veteran teachers who may be moving across states.

Illinois has opted to take a holistic approach to certification and licensure requirements. The Illinois State Board of Education has focused on policy-level changes, including modifying licensure requirements to remove barriers in certification examinations (see the "Certification Modifications" section) and adjusting requirements for out-of-state-teachers to make transferring out-of-state licenses more seamless (Illinois State Board of Education, 2018). Through the passage of HB5627 in 2018, the General Assembly gave authority to the Illinois State Board of Education to create agreements with other states for reciprocal approval of teaching credentials to expand Illinois' access to a greater number of educators (Public Act 100-0596, 2018). Illinois has full reciprocity for those who have a bachelor's degree and a comparable out-of-state license. Candidates who do not have a comparable out-of-state license may need to take additional coursework. The state also waives performance assessments for those with at least 1 year of teaching experience and a proficient rating on their last evaluation (Evans et al., 2020).

Financial Incentives

Several states have used loan forgiveness, scholarships, housing credits, and pay raises to improve recruitment and retention rates.

In response to the high need for quality teachers in rural New Hampshire schools, the **University of New Hampshire's Teacher Residency for Rural Education** is a 15-month program intended to place teachers in rural schools in New Hampshire. The program provides a \$28,000 per year stipend, a 50% in-state tuition discount, and a laptop for all teachers. The focus is to increase the number elementary and secondary mathematics or science teachers placed in a rural district (University of New Hampshire, n.d.). The program emphasizes community and school partnerships and works with several organizations, including North County Education Services (a consortium of New Hampshire school districts), the state department of education, districts, and cooperatives to ensure that students are fully supported through the residency and paired with a teaching mentor (Reagan, 2017). To be eligible, prospective students must have a bachelor's degree, a minimum 3.0 GPA, an undergraduate major in either science or mathematics (if seeking a secondary certificate), and have passed the Praxis exam (University of New Hampshire, n.d.). During the 5-year grant funded through the U.S. Department of Education's Teacher Quality Partnership program, the Teacher Residency for Rural Education program will graduate and place 60 teachers to work in rural schools across the state by the end of the fifth and final cohort, anticipated to be in 2022 (Reagan, 2017).

Wisconsin is tackling the shortage of minority educators through the Wisconsin Minority Teacher Loan Program for individuals of a minority population, including African American, American Indian or Alaskan native, Hispanic, Asian or Pacific Island origin, or two or more races. Candidates also must be enrolled at least half-time as an undergraduate student, have an overall GPA of 3.0,

and claim Wisconsin residency. The program aims to forgive loans if eligible participants agree to teach in a Wisconsin district with at least a 40% minority student population. The loan is forgiven over a 4-year period (25% each year) if eligibility is met. In addition, the individual must receive an educator effectiveness rating of at least “Proficient” and enroll in a preparation program toward licensure in a teacher shortage area. The state allocates funding for this loan program (Higher Educational Aids Board, n.d.).

Educator Preparation Partnerships

A number of regions throughout California have low rates of K-12 credentialed teachers, but no access to a commission-approved educator preparation program. To mitigate this issue, the **California Community College Teacher Credentialing Partnership Pilot Program** uses grant funds to sponsor distance-learning opportunities to earn full teaching credentials for individuals who have a bachelor’s degree, currently teach with a provisional or short-term permit, and reside in areas with low college enrollment rates (California Commission on Teacher Credentialing and California Community Colleges Chancellor’s Office, 2020). The program provides funds to three community colleges in areas that have a shortage of K-12 credentialed teachers. The recipients must partner with at least one higher education institution with an approved teacher preparation program, as well as a local education agency to create an education preparation program at the community college. The institution of higher education works with the community college to provide coursework for program participants. The state is funding the initial pilot with \$500,000 to each of the three community colleges. The grant is underway and scheduled to proceed through fall 2022 (California Commission on Teacher Credentialing and California Community Colleges Chancellor’s Office, 2020). One of the community colleges awarded the grant is partnering with an educator preparation program that has experience working with community-based organizations and supporting bilingual credentialing, a growing need in the state. Another community college, Feather River College, is partnering with San Diego State University to offer the Project Access Grant to individuals; grant recipients receive access to the pilot online credential program, as well as financial support, testing support, professional development, and technology (Butte County Office of Education, n.d.).

To increase prospective teacher placement in rural districts, the **Montana Rural Education Association** (MREA) started the Rural Educator Fellows Scholarship Program, where student teacher candidates receive a \$1,500 scholarship along with a matched student teaching location in a rural area. The program places student teacher candidates in locations where there may be a teaching position opening the following school year. Although the program does not bind the student or district to hiring the teacher, the program matches teacher candidates with districts to increase the potential for employment. Interested students work with their educator preparation program’s student teacher placement office/official to submit a letter of interest, application, and transcript for program consideration and, if accepted, will continue with the program to ensure successful placement (Montana Rural School Education Association, n.d.).

In September 2020, the **New Mexico Public Education Department** won a 5-year, \$10 million federal grant through the U.S. Department of Education's School-Based Mental Health Services Grant Program. In collaboration with the New Mexico Department of Health's Office of School and Adolescent Health, New Mexico will provide stipends and increased pay for behavioral health care providers who work in school districts that have been selected based on family income, substance abuse rates, student suicide rates, and student-provider ratios. Districts in rural areas and those serving predominantly Native American populations are prioritized in selection. New Mexico will work to grow the pool of providers by partnering with the five largest universities in the state to provide training. Once the grant is fully implemented, program effectiveness will be measured by retention rates of behavioral health care providers and survey responses from students on the New Mexico Risk and Resiliency Survey taken every two years (Robinson, 2020a).

Certification Modifications

Several states are currently making legislative changes related to occupational licensing (Hultin, 2017; Rege et al., 2019). Much of this work focuses on finding the right balance between ensuring a minimum level of competence and protecting public safety, while reducing requirements that potentially increase time and cost for individuals.

To increase equitable licensure and retain potential teachers, the state of **Washington** has launched the multiple measures pilot for the edTPA to run from July 2020 to July 2021. A portfolio-based performance assessment, the edTPA is required to complete a teacher preparation program in the state. The multiple measures process provides an alternative path to earning a certificate for those who do not pass the edTPA, but score at least a 35 on the assessment (29 if in a world and classical language area). This program, in part, provides a culturally responsive and coherent assessment system. An education preparation program participating in the pilot can select different measures to recommend candidates to earn a certificate. These multiple measures may include documented observations of a candidate's practice and evidence that candidates supply to the program in the following areas: planning, instruction, or student assessment. Education preparation programs form a committee that identifies and recommends candidates to be certificated through this process. The Professional Educator Standards Board is currently receiving data from preparation programs to understand effectiveness of the pilot (Washington State Professional Educator Standards Board, n.d.-b).

To help mitigate the 1,400 unfilled positions in the state, **Illinois** passed Public Act 101-0220 in 2019, which eliminated the requirement to pass the Test of Basic Skills for Professional Educator Licensure. Basic Skills tests include ACT, SAT, or Test of Academic Proficiency scores. Advocates argued that admission into a preparation program already demonstrated proficiency. Although individuals must still pass the edTPA and content tests, this legislation removed financial and practical barriers to licensure, and automatically updated or allowed for continued processing of 246 pending licenses. In addition, the change allowed an additional 1,200 individuals to begin student teaching (Illinois State Board of Education, 2019).

Teacher Career Development

Creating an environment in which teachers can overcome challenges and grow in their career are important factors to retention. States have turned to professional development, induction programs, mentorships, and pathways to leadership to strengthen teacher career development.

Louisiana developed clear opportunities for teacher leadership and career advancement, including fellowship programs, multiple pathways to leadership certification, and designated leadership opportunities within districts (e.g., assistant principal, principal, parish or city supervisor of instruction, supervisor of child welfare and attendance, and special education supervisor). Possible pathways to certification include earning a master's degree, conducting an individual plan of study through a state-approved education leader program provider for those who currently hold a master's degree, documenting evidence of leadership experience for those who currently hold an education master's degree, or completing a competency-based educational leader practitioner program for those who hold a bachelor's degree are possible (Louisiana Department of Education, n.d.-b).

Iowa's state-created Teacher Leadership and Compensation (TLC) System has shown positive results in both teacher stratification and improved teacher quality. The system has helped retention efforts by promoting competitive starting salaries, professional development, leadership opportunities, collaboration between teachers, rewards for professional growth, and student achievement. TLC rewards teachers with career opportunities in leadership and/or increased compensation for those who develop professionally and share practices. Teacher collaboration—such as through peer observations, learning labs, and co-planning—is more common after implementation. Ninety-two percent of districts indicated that they met their local “attract and retain” teacher goals in 2019–20. The state allocated approximately \$160 million for districts to implement the system (Iowa Department of Education, 2020).

Responding to the decreased enrollment in preparation programs and high attrition rates, in February 2017, **Arkansas** developed a comprehensive Teach Arkansas campaign that includes five goals and target metrics related to teacher shortages. These include increasing the number of preparation program candidates by 20%, increasing the number of novice teachers by 10%, decreasing the attrition rate by 15%, increasing the number of teachers reentering the profession by 5%, and increasing the number of minority teachers by 25%—all within a 5-year period. The campaign focuses on becoming a teacher, growing as a teacher, and returning to the profession with clear, communicated opportunities, pathways, and steps for interested parties. The targeted activities include hosting regional sessions for teacher candidates, providing opportunities for teachers with 3 years of experience to grow in the profession by earning new licenses in Lead Professional Educator and Master Professional Educator, and reducing required professional development from 60 to 36 hours for returning teachers (Friedman, 2018a). In the 2017–18 academic year, Arkansas saw its first increase in enrollment in educator preparation program in 5 years (Friedman, 2018b). According to the Arkansas Educator Preparation Provider Quality Report, enrollment and completion for individuals with school administration credentials has increased overall between the 2017–18 and 2019–20 academic years (Arkansas Department of Education, 2020).

Key States

This section presents contextual information related to educator workforce shortages in seven key states that share certain similarities with Colorado or were identified based on strategies that may be of interest to Colorado stakeholders: Arizona, Missouri, Nebraska, New Mexico, Oklahoma, Oregon, and Washington. Also presented is an overview of initiatives presently in place to address shortages within each state's context.

Arizona

Prior to the COVID-19 pandemic, Arizona faced a teacher shortage. Arizona's superintendent of public instruction, Kathy Hoffman, stated,

Not only is Arizona losing teachers to surrounding states that can offer better pay, but we are also losing them to other countries. With Arizona still ranking near the bottom in terms of teacher pay and per-pupil spending, we cannot afford to wait for the next legislative session to get this right (AZCARES, 2020).

The COVID-19 pandemic intensified the shortage: According to a survey administered through the Arizona School Personnel Administrators Association, since the pandemic began, approximately 750 additional teachers have left their jobs. More than 40% of those teachers who left the field reported that COVID-19 is the reason they chose to resign or retire. In response, Arizona is using part of the Governor's Emergency Education Relief Fund through the Coronavirus Aid, Relief, and Economic Security (CARES) Act to recruit and retain more teachers (Thomason, 2019).

*Arizona is using part of the Governor's Emergency Education Relief Fund through the CARES Act in four key areas related to teacher recruitment and retention. (1) \$20 million in **Acceleration Academies grants for high-need schools** to hire specialists in reading and math, as well as paraprofessionals to continue momentum on closing equity gaps. (2) \$6 million for the **Arizona Teachers Academy** that waives tuition and fees for those who commit to teach in Arizona to combat the teacher shortage and high teacher retirement due to COVID-19. (3) \$700,000 for **better targeted principals and leadership development in rural and underperforming schools** through the Beat the Odds Leadership Academy. (4) \$500,000 for **tutoring from Teach For America** through stipends for most impacted schools and students most in need. This will be a critical support to teachers (AZCARES, 2020).*

Missouri

According to a report from the Missouri Department of Elementary and Secondary Education, there was a 5% shortage in full-time equivalent instructors in Missouri in 2020, with the largest shortage groups including elementary education, early childhood education, and early childhood special education. According to Paul Katnik, assistant commissioner with the Department of Elementary

and Secondary Education, fewer college students in Missouri are studying to be teachers, as evidenced by a decrease in teacher education program enrollment (Chapoco, 2020).

An education preparation program in Missouri worked with local education agencies to help paraprofessionals earn full credentials with increased flexibility to boost enrollment.

*The University of Central Missouri (UCM) developed a partnership with four metro-area districts to **help paraprofessionals enroll and complete a bachelor's degree in education** in a type of Grow Your Own initiative. Instead of having paraprofessionals leave their full-time job, UCM is building the program to **accommodate school hours** by offering evening, summer, and online courses with the possibility of offering courses at the district facilities. In addition, UCM and districts will work together to use the paraprofessional experience to meet practicum requirements (Phelan, 2019).*

Nebraska

In 2019, the Nebraska Department of Education reported 2,147 teaching vacancies (Nebraska Department of Education, 2019). Unqualified personnel filled an additional 321 positions. When asked to identify the potential reasons for unfilled positions, Nebraska districts noted the following:

- » There were “No applicants who were fully qualified based on endorsement area” (29%).
- » There were “No applicants” for the positions (25%).
- » Hiring managers “preferred a specific, non-fully qualified applicant over [a] fully-qualified applicant” (22%; Nebraska Department of Education, 2019).

To mitigate teacher shortages, the Nebraska Department of Education partnered with education preparation programs to create open pathways to teaching.

*Using federal dollars from the Transition to Teaching grant from the U.S. Department of Education and working alongside the University of Nebraska at Kearney, the Nebraska Department of Education created the **Transitional Certification Program**, which provides an alternative route to certification. The goal of the program is to attract mid-career professionals and recent college graduates with baccalaureate degrees to the educator workforce. Participants are required to have at least 75% of course requirements for preparation in a secondary field or subject endorsement area through their degree, documentation of a request for a teaching permit from a school system where the individual intends to teach, a written plan for mentoring and supervision, verification of completion of a pre-teaching seminar, and a plan to complete an approved initial teacher certification program (Nebraska Department of Education, 2020).*

New Mexico

In early 2020, the deputy secretary for teacher training and recruitment for the New Mexico Public Education Department reported that students in 644 classrooms in New Mexico were taught by long-term substitute teachers. Rural and low-income schools in New Mexico have had the greatest challenges in hiring teachers, especially in areas such as special education and STEM (science, technology, engineering, and mathematics). Increasingly, the state has developed a growing reliance on substitutes and individuals without teaching degrees (Ulloa, 2020a, 2020b).

Within the last year, New Mexico has implemented strategies to combat these shortages. The state increased public school spending by \$216 million, or nearly 8% (Ulloa, 2020a). The state also focused efforts on retaining teachers by making changes in the structure of the teaching evaluation system (Goodmacher, 2020).

*According to a 2020 annual study, New Mexico's teacher vacancy levels have dropped 23% in the last 2 years as more teachers decided to remain in the profession. The governor of New Mexico removed student assessments created by the Partnership of Assessment of Readiness for College and Career through executive orders, citing the high pressure and counterproductive nature of the assessments (Lee, 2019). Thus, **the state no longer uses high-stakes standardized examinations as a measure to evaluate educator effectiveness.** A new program called Elevate New Mexico is rolling out for teacher evaluation and will continue the move **away from high-stakes evaluations to more reflection, feedback, and professional development for educators** (New Mexico Public Education Department, 2020; Robinson, 2020b).*

Oklahoma

A recent survey from the Oklahoma State School Board Association showed that most schools are adding teaching positions thanks to increased state funding, but they are having trouble finding talent. Seventy percent of the districts surveyed anticipated needing emergency certified teachers for the 2019–20 school year. Emergency certifications were once rare in Oklahoma (e.g., only 32 were issued in the 2011–12 school year); however, Oklahoma has lost about 30,000 teachers in the past decade (Korth, 2019).

Although many state education agencies have statewide plans or initiatives to help address teacher shortages, Oklahoma demonstrates how also engaging other entities as accountability partners provides the means for increasing resources to address the issue. For example, the Oklahoma State Regents for Higher Education developed the Teach Oklahoma program to help build the pipeline for future teachers by creating interest in the profession among high school juniors and seniors who have demonstrated high academic and leadership skills. The program includes practicum experience, observations, and the development of a professional portfolio. Schools apply to receive a grant of up to \$1,500 per course taught at the school. In the 2019–20 academic year, more than

200 students were enrolled in Teach Oklahoma programs across 16 schools (Oklahoma State Department of Education, 2019, 2020). The state has since developed partnerships with local businesses to increase the number of teachers in STEM-related careers.

*Oklahoma is in its fourth year of its **teacher externship partnership with seven STEM-related businesses**. The externship provides an opportunity for teachers to explore potential career paths for their students. The externships take place during the summer with a few occurring in the fall and spring (Oklahoma State Regents for Higher Education, n.d.). The work is mutually beneficial because educators receive both monetary incentives and professional development, and employers can influence STEM-related curricula. Such a partnership considers the needs of the industry while providing avenues for students (via their teachers) to learn more about STEM-related career options (Oklahoma State Department of Education, 2018).*

Oregon

In Oregon, the number of students enrolled in teacher preparation programs began dropping even before the COVID-19 pandemic. In the past decade, the number of students in Oregon studying to be educators has plummeted, and many teachers are relocating to neighboring Washington state for higher pay (Ward, 2018). Oregon developed 10 regional educator networks throughout the state that work together, in part, to solve teacher shortage problems (Educator Advancement Council, n.d.; Oregon Department of Education, 2016).

*Oregon uses a **shared service model**, the **Regional Educator Network**, to combat problems in teacher recruitment and retention. The five areas of focus include (a) educator recruitment pathways, (b) educator preparation partnerships, (c) support for new educators, (d) opportunities for professional growth and development, and (e) career advancement. Oregon uses a networked continuous improvement and equity lens with its 10 regional educator networks (Willamette Education Service District, n.d.).*

Washington

Although teacher hiring activity has significantly increased in Washington state in the last 12 years, the student population has increased as well, resulting in a statewide teacher shortage. In addition, the state has a shortage in teachers who reflect the diversity of students enrolled in Washington schools. Approximately 11% of teachers in Washington are teachers of color, whereas nearly 50% of the students are students of color (Washington State Professional Educator Standards Board, 2019). To address this disparity, Washington is supporting districts to develop GYO programs with a special emphasis on diversity.

*Washington developed the **Recruiting Washington Teachers (RWT)** program to help districts design Grow Your Own programs directed toward juniors and seniors in high school. The High School Teacher Academy course and curriculum **recruits and supports diverse future teachers to explore careers in education**. The goals of the program are to diversify the Washington educator workforce and close gaps in opportunity for education as ways to address the teacher shortage. In 2019, 81% of the students in the RWT program were students of color. Ninety-three percent of the students in the program applied to college, and 100% of them were accepted. RWT also includes an add-on program for bilingual teacher candidates: the **RWT Bilingual Educators Initiative**. The programs are funded through CTE funds (Washington State Professional Educator Standards Board, n.d.-c; 2020).*

State Crosswalk

A review of the state department of education websites for all 50 states and the District of Columbia yielded varying degrees of information about efforts to recognize, address, and mitigate shortages in the educator workforce. Each state and the District of Columbia has implemented at least one strategy, and in many cases multiple strategies, to address these shortages. Tables 2–5 provide an “at-a-glance” visual representation of the common strategies that states are employing to increase the number of educators. The tables are divided by regions to provide a visual depiction of the strategies that may be more prevalent in one area of the country over another. Table 2 covers the Western region of the United States; Table 3, the Midwest; Table 4, the South; and Table 5, the Northeast. The information presented in the crosswalks may not be all inclusive, but it reflects a broad overview of available information via state education agency webpages as of December 2020. A few findings from the exploration are as follows:

- » Each state employs some version of reciprocity to allow teachers to transfer their teaching credentials to another state.
- » More than 75% of states use some form of financial incentive as a tool to attract professionals to the education workforce.
- » Providing alternative routes and pathways for adults to enter the educator workforce has gained traction in the past 20 years with the inception of state-specific alternative preparation programs as well as national programs such as Teach For America and The New Teacher Project. In Colorado, state-led alternative preparation programs account for the majority of these teacher candidates.

Table 2. Western Region Educator Shortage Strategies

States	Grow Your Own	Alternative Routes and Pathways to Teacher Certification	Reciprocity	Financial Incentives	Educator Preparation Partnerships	Certification Modifications	Teacher Career Development
Alaska			✓			✓	
Arizona	✓	✓	✓	✓	✓	✓	✓
California		✓	✓	✓	✓		✓
Colorado	✓	✓	✓	✓			✓
Hawaii	✓	✓	✓	✓			✓
Idaho		✓	✓	✓			
Montana			✓	✓			✓
Nevada		✓	✓	✓			✓
New Mexico	✓	✓	✓	✓			✓
Oregon	✓		✓	✓			✓
Utah		✓	✓	✓		✓	✓
Washington	✓	✓	✓	✓	✓	✓	
Wyoming			✓	✓			✓

Note. Information from state education agency webpages as of December 2020.

Table 3. Midwest Region Educator Shortage Strategies

States	Grow Your Own	Alternative Routes and Pathways to Teacher Certification	Reciprocity	Financial Incentives	Educator Preparation Partnerships	Certification Modifications	Teacher Career Development
Illinois	✓	✓	✓	✓	✓	✓	
Indiana	✓	✓	✓	✓	✓		✓
Iowa	✓	✓	✓	✓	✓		✓
Kansas		✓	✓	✓			✓
Michigan	✓	✓	✓				✓
Minnesota	✓		✓	✓	✓		✓
Missouri	✓	✓	✓	✓		✓	
Nebraska		✓	✓	✓			
North Dakota		✓	✓		✓		✓
Ohio	✓	✓	✓				✓
South Dakota		✓	✓	✓			✓
Wisconsin		✓	✓	✓		✓	✓

Note. Information from state education agency webpages as of December 2020.

Table 4. Southern Region Educator Shortage Strategies

States	Grow Your Own	Alternative Routes and Pathways to Teacher Certification	Reciprocity	Financial Incentives	Educator Preparation Partnerships	Certification Modifications	Teacher Career Development
Alabama			✓	✓	✓		✓
Arkansas	✓	✓	✓	✓	✓	✓	✓
Florida		✓	✓	✓			✓
Georgia		✓	✓		✓		✓
Kentucky	✓	✓	✓	✓			✓
Louisiana		✓	✓	✓			✓
Mississippi	✓	✓	✓	✓	✓		✓
North Carolina	✓	✓	✓	✓			✓
Oklahoma		✓	✓	✓	✓	✓	✓
South Carolina	✓	✓	✓	✓	✓	✓	✓
Tennessee	✓		✓	✓	✓	✓	✓
Texas	✓		✓	✓			✓
Virginia	✓	✓	✓	✓	✓	✓	✓
West Virginia		✓	✓	✓			✓

Note. Information from state education agency webpages as of December 2020.

Table 5. Northern Region Educator Shortage Strategies

States	Grow Your Own	Alternative Routes and Pathways to Teacher Certification	Reciprocity	Financial Incentives	Educator Preparation Partnerships	Certification Modifications	Teacher Career Development
Connecticut	✓	✓	✓	✓	✓	✓	
Delaware	✓	✓	✓	✓			
Maine	✓	✓	✓	✓	✓	✓	
Maryland	✓	✓	✓	✓	✓		✓
Massachusetts		✓	✓	✓	✓		
New Hampshire	✓	✓	✓		✓		
New Jersey		✓	✓		✓		✓
New York	✓	✓	✓	✓	✓	✓	✓
Pennsylvania		✓	✓	✓	✓	✓	✓
Rhode Island	✓	✓	✓	✓	✓		✓
Vermont	✓	✓	✓		✓	✓	
Washington D.C.			✓				✓

Note. Information from state education agency webpages as of December 2020.

COVID-19 and Educator Shortages

The COVID-19 crisis has affected all social and economic sectors. Public education has arguably borne the brunt of the crisis as evidenced by the rapid and unexpected transition to remote modes of instruction and the subsequent anxiety about the academic, social, and emotional well-being of students and teachers. The pandemic has highlighted and heightened the critical and ongoing need for qualified educators (Lachlan et al., 2020).

The **Mississippi Department of Education** (MDE) has applied multiple strategies to mitigate its teacher shortage crisis, including offering financial incentives, developing state-led residency programs, forming partnerships with state colleges, and providing multiple pathways to credentialing and licensure. Most notably, MDE has sought to combat the effects of the COVID-19 pandemic on the educator workforce by investing in digital technology to increase the number of students learning from a highly qualified teacher, even if the teacher resides in a different part of the state. Partnering with the Mississippi Alliance for Nonprofits and Philanthropy and other education organizations, the state is creating a digital learning plan (Mississippi Department of Education, 2020a). In September 2020, Mississippi passed the Equity in Distance Learning Act to build the critical infrastructure of digital technology for the state, including an additional \$150 million for computer needs for students and teachers, connectivity, and professional development for teachers and students. Districts will use funds in accordance with their individual distance learning plans. (Mississippi Department of Education, 2020b; SB No. 3044, 2020).

In May 2020, **Tennessee** reported more than 1,200 teacher vacancies. In response to this shortage and the ongoing pandemic, the Tennessee Department of Education built a central website called the TN Teacher Jobs Connection to help connect applicants for teaching positions with the state's 147 districts. The department is working alongside the Tennessee Association of School Personnel Administrators to make this initiative successful. Each week, the department sends information collected through the website about potential candidates to association members who provide human resource support to districts. Districts then contact applicants directly. Advocates have emphasized that this website will help fill hard-to-staff teacher positions; it will have a large pool of candidates, including recent graduates, licensed professionals, and out-of-state candidates (Tennessee Department of Education, 2020).

In an effort to mitigate teacher shortages in special education, the **Department of Public Instruction in North Dakota** awarded \$750,000 from the CARES Act to Minot State University (North Dakota Department of Public Instruction, 2020). The university has a special education department that positions them well to use these funds. Most of the funds will be used as scholarships to pay for 20 paraprofessionals to earn their licenses as special education teachers. These paraprofessionals already have experience working with students receiving special education services. The scholarships cover seven semesters, and recipients will be able to complete courses through online instruction.

States have turned to revisions to requirements in certificates and guidelines on teaching authority to respond to the teacher shortage that has been exacerbated by the pandemic. For example, the **Michigan Department of Education** allowed districts to hire student teachers for positions that are hard to fill. Student teachers with a full-year basic substitute permit can be hired by a district. If hired, student teachers must have a district mentor and receive professional learning. The state highlights that districts also can use the student's year of teaching as an interview process for a full position. Working with the district for a year can lead to an improved transition once the student is fully licensed (Keesler, 2020).

Washington has filed several emergency rules to limit any effects of COVID-19 on teacher shortages. In addition to extending validity of teacher certificates until June 2021, they have issued guidance for emergency certificates. Education preparation programs play a large role in issuing emergency teacher certificates. Programs may recommend this certificate for students who have finished program requirements, including coursework and clinical practice, even if they have not completed some assessments. The certificate is in place for 1 year and can be reissued with further program recommendation. The deadline for the first recommendation is December 31, 2021, and the deadline for the second recommendation is June 30, 2022 (Washington State Professional Educator Standards Board, n.d.-a).

Conclusion

Colorado has supported multiple programs to address the statewide educator shortage crisis. A few examples include the Troops to Teachers program which recruits former military members with the knowledge, skills, and dispositions to potentially serve as effective classroom teachers; an allowance approved by the state legislature in 2017 that enables rural school districts experiencing a critical shortage of teachers to hire retirees without a reduction in retirement benefits (Lachlan et al., 2020); and the partnership (in the form of a \$2.2 million grant from the Colorado Department of Higher Education) with the University of Northern Colorado (UNC) to incentivize more rural high school students to enter teaching. The university's Center for Rural Education serves as an expansion of the Teacher Cadet program in rural districts (Council of Chief State School Superintendents, 2017); and the Pathways2Teaching program aims to interest high school students of color into the teaching profession. The Pathways2Teaching program represents a collaboration between the University of Colorado Denver and several urban districts (Lachlan et al., 2020). In 2020, the state partnered with the Region 12 Comprehensive Center to develop an interactive geographic information systems map that layers educator shortage data and empowers the state and districts to better understand and contextualize successes and challenges.

Broadly speaking, proactive policy development by all states and districts is critical for success in addressing educator shortages. Expert guidance recommends that teacher shortages be addressed from a comprehensive point of view that considers the entire talent development continuum, from attracting to retaining teachers (Lachlan et al., 2020). Disaggregating teacher workforce data (i.e., examining school-level or subject-area problem areas) to get a clearer picture of shortages is an essential first step in determining which practices and policies may be most useful for a state or

district's political context. Doing so supports state education agencies and other education entities in making strategic decisions about funding, incentives, and other programmatic supports, including how to support districts in staffing decision making. Considering all elements of the continuum to identify synergies within the pipeline, rather than focusing on isolated areas of the problem of practice, will result in more comprehensive approaches to addressing educator shortages. While education entities may be tempted to provide short-term solutions to address immediate staffing needs, they must also consider the potential unintended consequences and impacts of such decision making (Lachlan et al., 2020).

Resources

A starting point for capturing the wide range of organizations that are leading the charge for solving educator shortages across the country is having access to resources associated with those efforts. In this section, we provide a list of resources to inform strategies to attract, prepare, and retain educators. These ideas will be useful for considering how to address the educator shortage crisis in Colorado. Although this list does not capture all the resources used to mitigate shortages, it includes several resources that may be especially useful for the Colorado context; it was developed to direct Colorado education stakeholders toward organizations, websites, materials, and toolkits that provide detailed guidance for potential implementation efforts. The resources are categorized according to three themes—Attract, Prepare, and Retain—based on the intended purpose of each resource. A final category, Selection Tools, includes resources to assist stakeholders to identify and implement strategies appropriate to local contexts.

Attract

Grow Your Own Module Series

<https://ccrscenter.org/implementation-toolkit/grow-your-own-systemic-approach-securig>

This four-part module can be used to learn more about the purpose, development, and implementation of Grow Your Own programs at state, regional, or district levels. The series introduces Grow Your Own programs, provides information on using data with Grow Your Own programs, includes ways to develop a Grow Your Own strategic plan, and highlights the essential components of a Grow Your Own program. Module 1 emphasizes foundational knowledge about the Grow Your Own program, provides research on the topic, and reviews currently implemented programs. Module 2 focuses on how to identify and use data to help program development and discusses the benefits of this model to improve equity gaps and workforce diversity. Module 3 dives into strategic planning and provides information on monitoring progress of your goals. The last module discusses the three types of Grow Your Own structures that will help situate the program in the listener's local context.

Working Better Together: A Continuum Rubric for Self-Assessing & Strengthening Partnerships

http://www.ccsso.org/sites/default/files/2018-03/Working_Better_Together.pdf

The Council of Chief State School Officers encourages partnerships between the P-12 sector and education preparation programs as a key feature of Grow Your Own programs. This tool shares how such partnerships can be assessed and strengthened by exploring the following categories and associated indicators for each: (a) Foundations, (b) Systems and Structures, (c) Planning and Implementation, and (d) Communications. Partners can come together to work through “a series of criteria, probing questions, and a continuum of effectiveness levels” to strengthen relationships (Council of Chief State School Officers, 2018, p. 3).

Strategies for Building Teacher Pipelines

https://ccss.org/sites/default/files/2018-03/Strategies_for_Building_Teacher_Pipelines.pdf

The board of directors of the Council of Chief State School Officers has identified six strategies that states can take to build pipelines to recruit, prepare, and support teachers:

- » Elevate the Teaching Profession
- » Make Teaching a Financially Appealing Career
- » Expand Pathways to Enter Teaching
- » Bring More Diversity to the Teaching Workforce
- » Set Reasonable Expectations for Retaining Teachers
- » Use Data to Target Strategies Where Shortages Exist

50-State Comparison: Teacher License Reciprocity

<https://www.ecs.org/50-state-comparison-teacher-license-reciprocity/>

This tool, developed by the Education Commission of the States (Evans et al., 2020), provides a comparison across all 50 states on multiple areas related to reciprocity, including full reciprocity policies, required assessments and coursework, requirements by teacher experience and effectiveness, and special reciprocity for military spouses and advanced credentials. The guide provides a state-by-state comparison of data, state statutes, and regulations as of June 2020. It also provides a state profile to see a state’s comprehensive approach.

Prepare

Recruit, Select, and Support: Turnaround Leader Competencies

<https://gtlcenter.org/technical-assistance/professional-learning-modules/recruit-select-and-support-turnaround-leader-competencies>

This three-part module, developed by the Center on Great Teachers and Leaders in 2015, focuses on the recruitment, selection, and retention of school principals for the purpose of school reform

and turnaround. The first module, Understanding Turnaround Leader Competencies, situates the listener by discussing challenges in leading school turnaround, highlighting leader competencies required for turnaround success, providing insight on the value of those competencies in selection and development of leaders, and helping identify evidence of competencies. The second module, Recruiting and Selecting Turnaround Leaders, describes how to use the competencies learned in Module 1 in recruiting and selecting turnaround leaders, including developing a competency-based interview and selection process. In addition, the module addresses how to assess and improve that process for future use. The last module, Developing and Retaining Turnaround Leaders, will help listeners understand what is required for principal support, the roles and responsibilities of supervisors, and professional development structures.

Retain

Teaching Innovation: New School Staffing Strategies Inspired by the Pandemic
https://www.future-ed.org/wp-content/uploads/2021/02/Report_Teaching-Innovation-1.pdf

This paper, authored by FutureEd and Education Counsel (Olson, 2021), describes new school staffing strategies, such as extending the reach of highly effective teachers through multi-classroom leaders, using new co-teaching or team-teaching models, abandoning uniform class sizes or time blocks, employing new instructional cycles that emphasize more student-direct learning in 7-week cycles, and shifting teachers into specialized roles. It also describes some of the potential challenges with innovative staffing arrangements going forward, such as labor contracts, state and district rules and regulations regarding mandatory class size, teacher licensing, bell schedules, required instructional minutes, the length of the school day and year, seat-time requirements, and funding.

Using Teacher Evaluation Data to Inform Professional Learning
<https://gtlcenter.org/technical-assistance/professional-learning-modules/using-teacher-evaluation-data-inform-professional-learning>

This module, developed by the Center on Great Teachers and Leaders in 2014, presents an evidence-based approach for supporting teachers in self-reflection based on formative feedback. The tool, covering 6 hours of training, can be used to ensure that teacher evaluation systems focus on growth. The module leads you through a series of activities that include the following:

- » Learn how teacher evaluation data are used in self-reflection and formative feedback.
- » Practice using teacher evaluation data in planning for professional learning for individuals and the organization.
- » Explore next steps for ensuring that school and district structures support a teacher evaluation system focused on professional growth.

Mentoring & Induction Toolkit 2.0: Supporting Teachers in High-Need Contexts

<https://gtlcenter.org/technical-assistance/toolkits/mi-toolkit>

This eight-part toolkit, developed by the Center on Great Teachers and Leaders (n.d.-a), will help support local districts in developing an effective mentoring and induction program. The toolkit emphasizes teachers who work in high-need contexts, such as special education. The toolkit provides best practices, relevant research related to supporting teachers, and an action planning process. The eight modules are as follows:

- » Introduction to the Toolkit
- » Mentor Recruitment, Selection, & Assignment
- » Mentor Professional Learning Development & Assessment
- » Beginning Teacher Professional Learning & Development
- » The Principal's Role in Mentoring & Induction
- » M&I Supports for Educators of Students With Disabilities
- » Collecting Evidence of Program Success
- » Data-driven Conversations for Equitable Access

Teacher Shortages: What We Know

<https://www.ecs.org/teacher-shortages/>

This series of briefs, developed by the Education Commission of the States (Aragon, 2016), considers five areas to explore in efforts related to teacher shortages: (a) Alternative Certification, (b) Financial Incentives, (c) Induction and Mentorship, (d) Evaluation and Feedback, and (e) Teacher Leadership. Each brief presents an overview, research related to focus areas, state examples, and policy considerations for specific strategies.

50-State Comparison: Teacher Recruitment and Retention

<https://www.ecs.org/50-state-comparison-teacher-recruitment-and-retention/>

This tool, developed by the Education Commission of the States (Evans et al., 2019), provides a comparison across all 50 states on four areas related to teacher recruitment and retention: (a) Shortage Data and Reports, (b) Expanding the Pool of Teacher Candidates, (c) Teacher Pay and Financial Incentives, and (d) Early and Ongoing Supports. The guide provides a state-by-state comparison of data, state statutes, and regulations, as of August 2019. It also provides a state profile to see a state's comprehensive approach. Some of the topics include recruiting high school students, paraprofessionals, minimum teacher pay, scholarship and grants to help recruit, loan forgiveness programs, additional pay, financial incentives for teachers of color, advanced licensure incentives, induction and mentoring, reduced teaching load, and teaching planning.

The Problem Isn't a Teacher Shortage: It's a Lack of Innovation in How Teachers May Work
<https://www.forbes.com/sites/jeanneallen/2019/10/09/the-problem-isnt-a-teacher-shortage-its-a-lack-of-innovation-in-how-teachers-may-work/?sh=52121cbd2a87>

This *Forbes* article (Allen, 2019) argues that a key reason that teachers are leaving the profession is because of a lack of voice and ability to innovate as entrepreneurs. It highlights examples of how schools could enable teachers to innovate by differentiating their roles based on skills, needs, and abilities.

Selection Tools

Tools for Solving the Teacher Shortage

<https://teachershortage.solutiontoolkit.org/>

This toolkit, developed by the Learning Policy Institute (n.d.), presents an overview of the teacher shortage crisis. It highlights the myriad reasons current teachers exit the teaching profession—from inadequate training and preparation to poor working conditions. The toolkit also provides ideas for solving the teacher shortage crisis as it relates to the following areas: (a) Service Scholarships & Student Loan Forgiveness, (b) Effective Training & Support for New Teachers, (c) Teaching Conditions & Supportive Leadership, and (d) Competitive Compensation. This toolkit also considers shortages in special education.

Innovative Staffing to Personalized Learning

https://www.christenseninstitute.org/wp-content/uploads/2018/05/innovative-staffing_2018_final.pdf

This collaboration between Public Impact and the Clayton Christensen Institute (2018) examines eight schools and school networks that provided students with more personalized instruction via blended learning while using new staffing models. It describes some innovative staffing approaches, including creating new roles, such as teacher-leader, collaborating teachers working in teams, support staff, and teachers-in-training, and using small-group instruction and team teaching.

Shortage Strategy Selection Tool

<https://gtlcenter.org/technical-assistance/toolkits/educator-shortages-special-education/selection-tool>

This tool, created by the Center on Great Teachers and Leaders (n.d.-b), provides an overview of strategies in three areas: (a) Attract, (b) Prepare, and (c) Retain. Each area is further divided into subcategories and themes; each subcategory includes briefs, modules, program exemplars, and reports, and each theme includes tools. The subcategories include:

- » Pathways into the Profession
- » Recruitment, Selection, & Hiring
- » Preparation Program Content and Pedagogy
- » Certification and Licensure

- » Program Approval/Improvement
- » Professional Learning and Support
- » Career Advancement
- » Teaching and Learning Conditions

The briefs, modules, and tools offer learning opportunities for districts, states, and educator preparation programs, and the program exemplar sections dive into state, school, or national programs that can guide development and the implementation of new programs for states.

Strategies Funding Guide

<https://gtlcenter.org/sites/default/files/StrategiesFundingGuide508.pdf>

This guide is an additional resource of the Shortage Strategy Selection Tool from the Center on Great Teachers and Leaders and CEDAR Center at the University of Florida (2019). Using its three areas (Attract, Prepare, and Retain) and various subcategories, this guide provides an overview of various avenues to fund initiatives identified in the selection tool. Although it has a focus on special education, the guide maps initiatives to funding possibilities across multiple areas, including specific U.S. Department of Education grants and programs.

References

- Allen, A. (2019, October 9). The problem isn't a teacher shortage: It's a lack of innovation in how teachers may work. *Forbes*. <https://www.forbes.com/sites/jeanneallen/2019/10/09/the-problem-isnt-a-teacher-shortage-its-a-lack-of-innovation-in-how-teachers-may-work/?sh=7243fc412a87>
- American Association of Colleges for Teacher Education. (2020). *Survey shows widening gap in supply of teachers coming in the fall*. <https://edprepmatters.net/2020/06/survey-shows-widening-gap-in-supply-of-teachers-coming-in-the-fall/>
- Aragon, S. (2016). *Teacher shortages: What we know*. Education Commission of the States. <https://www.ecs.org/teacher-shortages/>
- Arkansas Department of Education. (2020). *Arkansas educator preparation provider quality report*. <https://eis.ade.arkansas.gov/eppr/docs/State/StatewideReportApril2020.pdf>
- AZCARES. (2020). *Flexibility and funding for schools and families*. https://azgovernor.gov/sites/default/files/flexibility_and_funding_for_schools.pdf
- Butte County Office of Education. (n.d.). *Project Access grant*. <https://www.bcoe.org/Divisions/Statewide--Local-Support-Services/Future-Educator-Support/Teacher-Pathways/Project-ACCESS-Grant/index.html>
- California Commission on Teacher Credentialing. (2016). *Annual report card on California teacher preparation programs for the academic year 2014–2015 as required by Title II of the Higher Education Act*. <https://files.eric.ed.gov/fulltext/ED579155.pdf>
- California Commission on Teacher Credentialing and California Community Colleges Chancellor's Office. (2020). *Requests for proposals for California community college (CCC) teacher credentialing partnership pilot program grants*. https://www.ctc.ca.gov/docs/default-source/educator-prep/grants/ccc-final-rfp.pdf?sfvrsn=215e2cb1_6
- Center on Great Teachers and Leaders. (n.d.-a). *Mentoring & induction toolkit 2.0*. American Institutes for Research. <https://gtlcenter.org/technical-assistance/toolkits/mi-toolkit>
- Center on Great Teachers and Leaders. (n.d.-b). *Shortage selection strategy tool*. American Institutes for Research. <https://gtlcenter.org/technical-assistance/toolkits/educator-shortages-special-education/selection-tool>
- Center on Great Teachers and Leaders. (2014). *Using teacher evaluation data to inform professional learning*. American Institutes for Research. <https://gtlcenter.org/technical-assistance/professional-learning-modules/using-teacher-evaluation-data-inform-professional-learning>

Center on Great Teachers and Leaders. (2015). *Recruit, select, and support: Turnaround leader competencies*. American Institutes for Research. <https://gtlcenter.org/technical-assistance/professional-learning-modules/recruit-select-and-support-turnaround-leader-competencies>

Center on Great Teachers and Leaders and CEDAR Center at the University of Florida. (2019). *Shortages in special education toolkit: Strategies funding guide*.

<https://gtlcenter.org/sites/default/files/StrategiesFundingGuide508.pdf>

Chapoco, R. (2020). Missouri faces teacher shortage as wages, demands drive educators away. *Missouri Business Alert*.

<https://www.missouribusinessalert.com/industries/107964/2020/02/20/missouri-faces-teacher-shortage-as-wages-demands-drive-educators-away/>

College and Career Readiness and Success Center. (n.d.). *Grow your own: A systemic approach to securing an effective educator talent pool*. American Institutes for Research. <https://ccrscenter.org/implementation-toolkit/grow-your-own-systemic-approach-securing>

Council of Chief State School Officers. (2017). *State action: Strategies for building the teacher pipeline*. <https://ccss.org/sites/default/files/2018-03/Strategies%20for%20Building%20Teacher%20Pipelines.pdf>

Council of Chief State School Officers. (2018). *Working better together: Continuum rubric for self-assessing and strengthening partnerships*. <http://www.ccsso.org/sites/default/files/2018-03/Working%20Better%20Together.pdf>

Dai, C., Sindelar, P. T., Denslow, D., Dewey, J., & Rosenberg, M. S. (2007). Economic analysis and the design of alternative-route teacher education programs. *Journal of Teacher Education*, 58(5), 422–439. <https://doi.org/10.1177/0022487107306395>

Educator Advancement Council. (n.d.). *Educator advancement council regional educator networks*. <https://www.oregon.gov/eac/Pages/Regional-Educator-Networks.aspx>

Evans, A., Erwin, B., Macdonald, H., Pompelia, S., Aragon, S., & Perez, Z., Jr. (2019). *50-state comparison: Teacher recruitment and retention*. Education Commission of the States. <https://www.ecs.org/50-state-comparison-teacher-recruitment-and-retention/>

Evans, A., Frances, C., & McDole, T. (2020). *50-state comparison: Teacher license reciprocity*. Education Commission of the States. <https://www.ecs.org/50-state-comparison-teacher-license-reciprocity/>

Friedman, K. (2018a, February 2). *ADE launches teach Arkansas campaign*. Arkansas Department of Education. https://dese.ade.arkansas.gov/Files/20210118165035_ADE%20Launches%20Teach%20Arkansas%20Campaign.pdf

- Friedman, K. (2018b, November 29). *Educator preparation program enrollment increases for the first time in more than 5 years*. Arkansas Department of Education.
https://dese.ade.arkansas.gov/Files/20210118130921_Educator_Preparation_Program_Enrollment_Increases_for_First_Time_in_More_than_5_Years_November_29_2018.pdf
- FutureEd. (2020). *Strategies for the next president to strengthen public education*.
<https://www.future-ed.org/strategies-for-the-next-president-to-strengthen-public-education/>
- Goodmacher, C. (2020). *Solving the New Mexico teacher shortage requires us to view it as a crisis*. KRWG Public Media at New Mexico State University. <https://www.krwg.org/post/solving-new-mexico-teacher-shortage-requires-us-view-it-crisis>
- Higher Educational Aids Board. (n.d.). *Wisconsin minority teacher loan program information*.
<http://heab.state.wi.us/docs/programs/mlt-flyer.pdf>
- Hultin, S. (2017). *The state of occupational licensing*. National Conference of State Legislatures.
<https://www.ncsl.org/research/labor-and-employment/report-the-state-of-occupational-licensing.aspx>
- Illinois State Board of Education. (2018). *Teach Illinois strong teachers, strong classrooms: Policy solutions to alleviate teacher shortages in Illinois*. <https://www.isbe.net/Documents/Teach-Illinois-Memo.pdf#search=teacher%20shortage>
- Illinois State Board of Education. (2019). *Elimination of Test of Basic Skills removes financial and practical barrier for teacher candidates*.
<https://www.isbe.net/Lists/News/NewsDisplay.aspx?ID=1280>
- Indiana Department of Education. (2020). *Grow your own: Teacher Residency pilot grant application*.
<https://www.doe.in.gov/sites/default/files/news/aug-28-grow-your-own.pdf>
- Iowa Department of Education. (2020). *Legislative report: Teacher leadership and compensation*.
<https://educateiowa.gov/sites/files/ed/documents/Teacher%20Leadership%20and%20Compensation%20Legislative%20Report%202020.pdf>
- Keesler, V. (2020). *Memorandum: Supporting hard-to-fill position with teaching candidates*. Michigan Department of Education.
https://www.michigan.gov/documents/mde/Teaching_Candidates_698430_7.pdf
- Kentucky Department of Education. (2020). *Recruitment and retention: Certification*.
<https://education.ky.gov/teachers/NxGenProf/Pages/Certification.aspx>
- Korth, R. (2019). *Oklahoma legislators file bills to fight statewide teacher shortage*. State Impact Oklahoma. <https://stateimpact.npr.org/oklahoma/2019/12/23/oklahoma-legislators-file-bills-to-fight-statewide-teacher-shortage/>

Kurtz, H., & Bushweller, K. (2020). *Most educators want schools to stay closed to slow spread of COVID-19*. Education Week. <https://www.edweek.org/leadership/most-educators-want-schools-to-stay-closed-to-slow-spread-of-covid-19/2020/06>

Lachlan, L., Kimmel, L., Mizrav, E., & Holdheide, L. (2020). *Advancing quality teaching for all schools: Examining the impact of COVID-19 on the teaching workforce*. American Institutes for Research, Center on Great Teachers and Leaders.
<https://gtlcenter.org/sites/default/files/Examining%20Impact%20COVID19%20Workforce.pdf>

Lardieri, A. (2020). 1-in-5 teachers unlikely to return to schools if reopened in the fall, poll finds. *U.S. News and World Report*. <https://www.usnews.com/news/education-news/articles/2020-05-26/1-in-5-teachers-unlikely-to-return-to-schools-if-reopened-in-the-fall-poll-finds>

Learning Policy Institute. (n.d.). *Tools for solving the teacher shortage*.
<https://teachershortage.solutiontoolkit.org/>

Lee, M. (2019). *New Mexico governor suspends student testing system*. Associated Press.
<https://apnews.com/article/10252aaaf570b4e359c5e422d370dfc2a>

Levin, S., Scott, C., Yang, M., Leung, M., & Bradley, K. (2021). *Supporting a strong, stable principal workforce*. Learning Policy Institute and the National Association of Secondary School Principals. <https://www.nassp.org/wp-content/uploads/2020/08/LPI-and-NASSP-Research-Agenda-Final-Report.pdf>

Louisiana Department of Education. (n.d.-a). *Believe and prepare*.
<https://www.louisianabelieves.com/teaching/believe-and-prepare>

Louisiana Department of Education. (n.d.-b). *Leadership preparation routes leading to educational leader certification*. https://www.louisianabelieves.com/docs/default-source/teaching/leadership-preparation-routes-leading-to-leader-certification.pdf?sfvrsn=b658981f_2

Louisiana Department of Education. (n.d.-c). *Louisiana pre-educator pathway*.
<https://www.louisianabelieves.com/teaching/louisiana-pre-educator-pathway>

Louisiana Department of Education. (2016). *BESE expands full year classroom residency for teachers*.
<https://www.louisianabelieves.com/newsroom/news-releases/2016/10/12/bese-expands-full-year-classroom-residency-for-teachers>

Louisiana Department of Education. (2018). *Full preparation for all teachers: Mentoring in alternate preparations programs*. https://www.louisianabelieves.com/docs/default-source/teaching/2018-believe-and-prepare-post-baccalaureate-preparation-report.pdf?sfvrsn=9e26911f_10

Minnesota Department of Education. (n.d.). *Introduction to teaching concurrent enrollment grants state funding FY20 and FY21: Questions and answers.*

https://education.state.mn.us/mdeprod/idcplg?IdcService=GET_FILE&dDocName=MDE087637&RevisionSelectionMethod=latest&Rendition=primary

Mississippi Department of Education. (2020a, May 13). *State superintendent of education presents statewide digital learning plan to Mississippi legislature.*

https://www.mdek12.org/news/2020/5/13/State-Superintendent-of-Education-Presents-Statewide-Digital-Learning-Plan-to-Mississippi-Legislature_20200513

Mississippi Department of Education. (2020b, September 2). *State board of education chair: Mississippi converted disruption to educational opportunity.*

https://www.mdek12.org/news/2020/9/2/State-Board-of-Education-Chair-Mississippi-Converted-Disruption-to-Educational-Opportunity_20200902

Montana Rural School Education Association. (n.d.). *MREA rural educator fellows scholarship program.* <http://mrea-mt.org/mrea-rural-educator-fellows-scholarship-program/>

National Association of Secondary School Principals. (2017). *Position statement: Principal shortage.* https://www.nassp.org/wp-content/uploads/2020/06/Principal_Shortage.pdf

Nebraska Department of Education. (2019). *Teacher vacancy survey report.*

<https://cdn.education.ne.gov/wp-content/uploads/2020/01/2019-Teacher-Vacancy-Report.pdf>

Nebraska Department of Education. (2020). *Transition to teaching program information.*

<https://www.education.ne.gov/educatorprep/about-the-programs/transition-to-teaching-program-information/>

New Mexico Public Education Department. (2020). *Educator evaluation system: Test drive elevate NM for school year 2020–2021.* https://webnew.ped.state.nm.us/wp-content/uploads/2020/07/NMPED_SupportDoc_EducatorEvaluation.pdf

North Dakota Department of Public Instruction. (2020). *Baesler: Grant will ease shortage of special ed teachers.* <https://www.nd.gov/dpi/news/baesler-grant-will-ease-shortage-special-ed-teachers>

Oklahoma State Department of Education. (2018). *OSDE summer externships connect teachers, industry to better prepare students for careers.* <https://sde.ok.gov/newsblog/2018-06-18/osde-summer-externships-connect-teachers-industry-better-prepare-students>

Oklahoma State Department of Education. (2019). *Teacher shortage task force: August 2019 update.* <https://sde.ok.gov/sites/default/files/Teacher%20Shortage%20Task%20Force%20August%202019%20Update.pdf>

Oklahoma State Department of Education. (2020). *Educator quality and diversity advisory: September 2020 update.*

<https://sde.ok.gov/sites/default/files/EducatorQualityandDiversityAnnualReport-Sept2020%20%28003%29.pdf>

Oklahoma State Regents for Higher Education. (n.d.). *Teach Oklahoma.*

<https://www.okhigered.org/otc/teach-oklahoma.shtml>

Olson, L. (2021). *Teaching innovation: New school staffing strategies inspired by the pandemic.* Future Ed. https://www.future-ed.org/wp-content/uploads/2021/02/Report_Teaching-Innovation-1.pdf

Oregon Department of Education. (2016). *Understanding and identifying teacher shortage areas in Oregon: An analysis of statewide data to provide insight into recent trends in teacher supply and demand.* <https://www.ode.state.or.us/wma/researchteacher-shortage-final-report.pdf>

Perry, A. (2020). *Teachers could retire in droves by the time schools reopen.* The Hechinger Report. <https://hechingerreport.org/teachers-could-retire-in-droves-by-the-time-schools-reopen/>

Phelan, J. (2019). *UCM launches "Grow Your Own Teachers" program geared toward paraprofessionals seeking a bachelor's degree in education.* University of Central Missouri. <https://www.ucmo.edu/news/university-news/posts/2019-04-10-ucm-launches-grow-your-own-teachers-program/geared-toward-paraprofessionals-seeking-a-bachelors-degree.php>

Public Act 100-0596. Ill. Legis. Serv. (2018).

<https://www.ilga.gov/legislation/publicacts/100/PDF/100-0596.pdf>

Public Act 161.048. KY. Legis. Serv. (2017).

<https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=45713>

Public Impact and Clayton Christensen Institute. (2018). *Innovative staffing to personalize learning: How new teaching roles and blended learning help students succeed.* https://www.christenseninstitute.org/wp-content/uploads/2018/05/innovative-staffing_2018_final.pdf

Reagan, E. (2017). *Teacher residency for rural education: A community-centered approach to teacher preparation.* UNH Today. <https://www.unh.edu/unhtoday/2017/08/teacher-residency-rural-education-community-centered-approach-teacher-preparation>

Rege, G., Riley, T., Mitchel-Slentz, B., Yibass, S., & Curnow, C. (2019). *NCLS occupational licensing consortium case study reports.* American Institutes for Research.

<https://www.air.org/system/files/NCSL-Case-Study-Report-Nov-2019-rev2.pdf>

Robinson, J. (2020a, September 30). *PED wins \$10m grant for student behavior health*. New Mexico Public Education Department. <https://webnew.ped.state.nm.us/news-releases/2020-archive/>

Robinson, J. (2020b, October 15). *NM teacher vacancy numbers drop 23% in two years: More educators staying on the job*. New Mexico Public Education Department. <https://webnew.ped.state.nm.us/news-releases/2020-archive/>

SB No. 3044. MS Legis. Serv. (2020).
<http://billstatus.ls.state.ms.us/documents/2020/pdf/SB/3000-3099/SB3044SG.pdf>

South Carolina Department of Education. (n.d.). *Centers for the re-education and advancement of teachers in special education and related services personnel*. <http://sccreate.org/>

South Carolina Department of Education. (2020). *SC-CREATE: South Carolina centers for the re-education and advancement of teachers in special education and related services personnel: Final report: Year 16: 2018–19*.
<https://www.sccreate.org/Reports/final.report.Year16.SCDE.18-19.final.pdf>

South Carolina Teachers of Tomorrow. (n.d.-a). *How it works: Getting certified*.
<https://www.teachersoftomorrow.org/media-sc/SC-How-it-works-Getting-Certified.pdf>

South Carolina Teachers of Tomorrow. (n.d.-b). *The quickest route to become a teacher in South Carolina: How it works*. <https://www.teachersoftomorrow.org/southcarolina/how-it-works>

South Carolina Teachers of Tomorrow. (2020). *South Carolina Teachers of Tomorrow: Helping solve teacher shortage*. <https://www.teachersoftomorrow.org/southcarolina/teacher-resources/uncategorized/south-carolina-teachers-tomorrow-helping-solve-teacher-shortage>

Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S.* Learning Policy Institute.
https://learningpolicyinstitute.org/sites/default/files/product-files/A_Coming_Crisis_in_Teaching_REPORT.pdf

Tennessee Department of Education. (2020). *TDOE launches TN teacher job connection to support teacher recruitment and hiring*. <https://www.tn.gov/education/news/2020/5/27/tdoe-launches-tn-teacher-job-connection-to-support-teacher-recruitment-and-hiring.html>

Thomason, B. (2019). *Arizona teachers leaving state for more money educating abroad*. azfamily.com. https://www.azfamily.com/news/arizona_education/arizona-teachers-leaving-state-for-more-money-educating-abroad/article_06bfdb9a-73a6-11e9-87b5-bf4bdbecbcf.html

- Ulloa, S. (2020a). *New Mexico teacher shortage deeper, more complex than vacancies suggest*. Las Cruces Sun News. <https://www.lcsun-news.com/story/news/local/new-mexico/2020/02/07/new-mexico-teacher-shortage-deeper-more-complex-than-vacancies-suggest/4680103002/>
- Ulloa, S. (2020b). *PED official: Solution to teacher shortage sitting in classroom*. New Mexico In Depth. <http://nmindepth.com/2020/02/10/ped-official-solution-to-teacher-shortage-sitting-in-classroom/>
- University of New Hampshire. (n.d.). *Teacher residency of rural education (TRRE)*.
<https://cola.unh.edu/education/community-engagement/teacher-residency-rural-education-trre>
- Ward, J. (2018). *Oregon's teacher shortage is getting worse: New programs are now in place to help recruit high schoolers into teaching*. The World.
https://theworldlink.com/news/local/education/oregons-teacher-shortage-is-getting-worse/article_1af6835a-c15c-50cd-b7b4-f197ebe358aa.html
- Wasburn-Moses, L., & Rosenberg, M. S. (2008). Alternative route special education teacher preparation programs guidelines. *Teacher Education and Special Education*, 31(4), 257–267. <https://doi.org/10.1177/0888406408330647>
- Washington State Professional Educator Standards Board. (n.d.-a). *COVID-19 resources*.
<https://www.pesb.wa.gov/about-us/covid-19-resources>
- Washington State Professional Educator Standards Board. (n.d.-b). *Multiple measures pilot for the edTPA*. <https://www.pesb.wa.gov/innovation-policy/grants-pilots/multiple-measures/>
- Washington State Professional Educator Standards Board. (n.d.-c). *Recruiting Washington teachers: Growing future educators from our classrooms*. <https://www.pesb.wa.gov/wp-content/uploads/RWT-at-a-glance-double-sided.pdf>
- Washington State Professional Educator Standards Board. (2019). *The data and the story: Educator shortage in Washington state*.
<https://drive.google.com/file/d/1L8oWIXMLGb4OujeKO4TTsfrhz-o9kkQi/view>
- Washington State Professional Educator Standards Board. (2020). *District informational packet*.
https://drive.google.com/file/d/1g4hRrl-cN3AsA141A2f8_NOWl-5ZIYaW/view
- Willamette Education Service District. (n.d.). *What is the goal of REN?*
<https://www.wesd.org/site/default.aspx?PageType=3&ModuleInstanceID=3717&ViewID=7b97f7ed-8e5e-4120-848fa8b4987d588f&RenderLoc=0&FlexDataID=4616&PageID=1201>